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AN EXAMINATION OF THE EFFECTS OF FIRST-TERM CAREER PROGRESSION ON NAVY A-SCHOOL ATTRITION AND THE MILITARY EXPERIENCES OF A-SCHOOL STUDENTS AFTER ATTRITION

by

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# An Examination of the Effects of First-Term Career Progression on Navy A-School Attrition and the Military Experiences of A-School Students After Attrition

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**ABSTRACT**

The objective of this study is to contribute to the Navy's knowledge and understanding of high A-School attrition. The study organized the available data concerning attrition in the Navy's training programs, evaluated its significance, and offers prospective solutions. The significance of the data of personal characteristics may then aid the Navy in selecting those personnel with a higher propensity to succeed.

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# I. INTRODUCTION

Attrition in the United States Navy's training programs affects all levels of Naval recruitment, teaching, and job competence. The ability of the Navy to successfully train and place its sailors in positions where they are both skilled and prosperous is intrinsic to the continual betterment of the Navy today and tomorrow. This study organizes and defines the available data concerning attrition in Navy training programs, evaluates its significance, and offers potential solutions to further the Navy's knowledge and understanding of its selection processes.

## A. BACKGROUND

Young people today are introduced to the U.S. Navy through three main avenues. These are the three primary media outlets (television, radio, and print), friend's recommendations, or contact with a Navy recruiter. Following the initial contact, prospective recruits gather information on the type of career that may interest them.

Recruiters assess individuals through a series of mental and physical tests, educational accomplishments, and a background investigation of any criminal record. A deficiency in any of these vital areas could disqualify a potential recruit from entering the Naval service. All of these factors

are weighed to give a preliminary evaluation of a recruit, his or her potential for a successful career, and the individual's options for choosing an occupational specialty.

Selection of the type of training the recruit desires is the next step. The choice of training is offered to recruits by matching available positions with the recruit's aptitude test scores. At this time, the recruit and recruiter attempt to match the recruit's desired specialty with his or her projected success in that field.

The availability of a "seat" in a particular school directly affects the new recruit's date of entry into active service. Military enlistment is achieved through either of two methods: direct accession, or under the Delayed Entry Program (DEP). Direct accession involves immediate entry into the service upon signing of the enlistment contract. The DEP is used to achieve a steady flow of new recruits through the training pipeline and to create a pool of people scheduled for enlistment. The DEP allows the individual to secure a guaranteed position in his or her chosen field and to postpone entry into the military until a mutually-convenient time.

Once the recruit has joined the Navy and completed recruit training, he or she begins specialty training at an A-School. A-Schools include a variety of training courses that introduce each student to basic instruction in a specific Navy occupation. These courses lay the foundation for follow-on technical training. A-Schools can range from a single course,

lasting only a few weeks, to a series of inter-connected courses within a training pipeline, which can take up to two years. The length of time for completion of A-School is directly related to the depth of the training program and the individual student's progress. Upon completion of A-School training, the individual is awarded a occupational "rating" and sent either to the fleet or to additional training.

## B. PURPOSE

This system of selection has not been completely successful. The rate of attrition at certain A-Schools exceeds twenty percent of original enrollment. Financially, this is unacceptable in today's world of shrinking defense budgets and increased cost-effectiveness.

Approximately 128,000 and 126,000 individuals are expected to enroll in A-School in fiscal 1991 and fiscal 1992, respectively [Ref. 1]. In a study completed in 1986, the cost-per- individual in A-School programs ranged from $27,000 to $50,000, based on fiscal 1979 dollars [Ref. 2]. Even crude figures show a potential loss of over one-billion dollars per year. Clearly there is ample room for improvement.

The overall objective of this study is to contribute to the Navy's knowledge and understanding of its problem in A-School attrition. Personnel who attend A-School with a limited chance of success might be better identified by examining

characteristics that have not been looked at before. By properly identifying individuals and their abilities, it may be possible to reduce attrition rates at the A-School level. Can we find a linkage between attrition rates and our evaluation? Are there trends in attrition rates as a whole? An in-depth examination of both the selection process and individual gradation is necessary to evaluate the data available from past years, and to offer conclusions and possible solutions to the problem.

This study attempts to describe the relationship between certain personal characteristics, A-School performance, overall job performance, and retention in the Navy. It also examines the flow of A-School attendees from the time of selection through A-School training and the conclusion of the first term. This information may help Navy policy makers to find ways of lowering training attrition and, thereby, save valuable economic and human resources.

## C. RESEARCH QUESTIONS

This study seeks to identify specific personal characteristics that the Navy may consider as indicators of a successful A-School candidate. Personal characteristics of the recruit are examined at selected flow points prior to attending A-School, while in A-School, and subsequent to A-School. Questions explored concerning individuals prior to A-School entry include:

- What was the recruit's Armed Forces Qualification Test (AFQT) score or level of "potentiality"?
- Was an Armed Services Vocational Aptitude Battery (ASVAB) waiver required for entry to A-School?
- Was the accession route of the recruit either direct or through the DEP?
- Was the recruit a high school diploma graduate?
- What was the attendee's age at time of entry to A-School?

Questions explored once the individual has entered A-School include:

- Were there any "set backs" of the A-School attendee? (A set back is defined as the need to repeat a section or sections of training, resulting in a delayed graduation date.)
- What was the individual's overall A-School performance (as determined by graduation status)?

Once the individual has exited A-School, his or her overall job performance and retention in the Navy is examined; and a comparison is made between those who have graduated from A-School and those who have not.

Questions addressed for individuals who fail to graduate from A-School are:

- What are the characteristics of persons who fail to graduate from A-School?
- How do the characteristics of those who failed to graduate from A-School compare with those of the attendees who did graduate?
- How does subsequent job performance compare to those persons who successfully completed A-School with those that failed to graduate?

## D. SCOPE AND LIMITATIONS

This study examines 25 A-Schools that have had an average attrition rate of 20 percent or greater over the past eight years (as identified by the Chief of Navy Education and Training) [Ref. 3]. Non-academic setbacks are not examined because these setbacks include reasons, such as medical problems or discharges, that are not controllable by the specific A-Schools. In addition, the entry standards required by A-Schools are not considered here due to their variability over time and the limited scope of this study.

## E. ORGANIZATION OF STUDY

The literature review in Chapter II outlines the problems that the Navy encounters as a result of A-School attrition. Problems begin with the enlisted classification process where a recruit's eligibility for service and specific A-School pipeline is determined.

Chapter III details the procedures and the specific Statistical Analysis System (SAS) programming techniques used to analyze the data. Results of analyses are presented in Chapter IV. The last chapter presents the conclusions of this study based on the analyses. Research questions are addressed and recommendations are offered for policy changes and for further study.

## II. LITERATURE REVIEW

The literature reviewed here includes studies on the development and uses of the ASVAB and AFQT, enlisted Navy training, student attrition problems A-Schools, and personnel attrition in the Navy.

### A. ASVAB AND AFQT EVALUATION

This section examines the eligibility of potential recruits based on their ASVAB scores. The primary source for this section is "Manpower for Military Occupations" by Eitelberg [Ref. 4]. In contrast to the low quality personnel who made up the enlisted force during the earlier part of this century, the average recruit today is a high school graduate with an enlistment test score above the fiftieth percentile. The individuals who have been selected for military service must first pass through several gates, or screens, prior to being finally granted entry into the Navy. These screens are intended to weed out individuals who are mentally, physically or morally unfit for service, and to select those who have the highest probability of completing their first term of enlistment.

Aptitude testing for military service is not a new phenomenon. Indeed the ancient Greek philosopher, Plato, recommended this type of testing in the fourth century B.C.

Aptitude testing in the United States armed forces originated during World War I, and in similar form was also used on the potential recruits in World War II. The aptitude tests employed during these periods were designed to measure a recruit's ability to adjust to military life, and to determine if an individual could read and sum numbers at the fourth-grade level. These tests of "general learning ability" were intended to be used as an aid in assigning new recruits to military jobs. Illiterate individuals were given an aptitude test similar to the one designed for literate applicants, except that the test consisted of pictures and oral questions. [Ref. 4]

After the conclusion of WW II, the armed forces developed their own separate tests for selection. The tests were essentially the same with respect to content area, emphasizing vocabulary, arithmetic, and spatial relationships. In 1950 the AFQT was introduced as the overall measure of aptitude for military service. The AFQT was the first test created for the specific purpose of screening recruits on the basis of their "trainability."

Over the course of the next twenty-five years, the armed forces used a variety of other aptitude screening tests for the supplementary evaluation of prospective recruits. When the draft ended in 1973, each service was also permitted to develop a conversion table from its own test battery as a basis for estimating an individual's AFQT score. Shortly

thereafter, a decision was made to use a single test battery both for screening enlistees and for assigning them to military occupations. In 1976, the ASVAB was introduced service-wide as the military's test for selecting and classifying new recruits.

Various forms or versions of the ASVAB have been developed since it was first introduced. However, the basic test battery consists of ten subtests considered useful in predicting the training success of enlisted personnel. The ten subtests that comprise the current version of the ASVAB are listed in Table 2.1.

The AFQT is an "aptitude composite" that combines four subtests from the ASVAB. These are: word knowledge, paragraph comprehension, arithmetic reasoning, and mathematical knowledge. AFQT scores are used as the primary selection device and as a measure of recruit quality. In addition, classification standards are also based on other ASVAB scores. The services combine various ASVAB subtests into several service-specific composites. These are used to assign new recruits to training for military occupations and are validated against training success. Some ASVAB composites are also used by the services to supplement AFQT scores in determining enlistment eligibility.

The ASVAB is currently the most widely-used test of vocational aptitude in the world. Approximately two million people participate in the exam annually. It has been revised

**TABLE 2.1 DESCRIPTION OF ARMED SERVICES VOCATIONAL APTITUDE BATTERY (ASVAB)**

| ASVAB SUBTEST | DESCRIPTION |
|---|---|
| GENERAL SCIENCE (GS) | MEASURES KNOWLEDGE OF PHYSICAL AND BIOLOGICAL |
| ARITHMETIC REASONING (AR) | MEASURES ABILITY TO SOLVE ARITHMETIC WORD PROBLEMS |
| WORD KNOWLEDGE (WK) | MEASURES ABILITY TO SELECT THE CORRECT MEANING OF WORDS PRESENTED IN CONTEXT AND TO IDENTIFY THE BEST SYNONYM FOR A GIVEN WORD |
| PARAGRAPH COMPREHENSION (PC) | MEASURES ABILITY TO OBTAIN INFORMATION FROM WRITTEN PASSAGES |
| NUMERICAL OPERATIONS (NO) | MEASURES ABILITY TO PERFORM ARITHMETIC COMPUTATIONS IN A SPEEDED CONTEXT |
| CODING SPEED (CS) | MEASURES ABILITY TO USE A KEY IN ASSIGNING CODE NUMBERS TO WORDS IN A SPEEDED CONTEXT |
| AUTO AND SHOP INFORMATION (AS) | MEASURES KNOWLEDGE OF AUTOMOBILES, TOOLS, AND SHOP TERMINOLOGY AND PRACTICES |
| MATHEMATICS COMPREHENSION (MC) | MEASURES KNOWLEDGE OF HIGH SCHOOL MATHEMATICS PRINCIPLES |
| MECHANICAL COMPREHENSION (MC) | MEASURES KNOWLEDGE OF MECHANICAL AND PHYSICAL PRINCIPLES AND ABILITY TO VISUALIZE HOW ILLUSTRATED OBJECTS WORK |
| ELECTRONICS INFORMATION (EI) | MEASURES KNOWLEDGE OF ELECTRICITY AND ELECTRONICS |
| SOURCE: DEPARTMENT OF DEFENSE, COUNSELOR'S MANUAL FOR THE ARMED SERVICES VOCATIONAL APTITUDE BATTERY - FORM 14 (CHICAGO, IL.: MILITARY ENTRANCE PROCESSING COMMAND, JULY 1984) | |

several times since its introduction, as previously noted, and has undergone numerous validation studies. The Navy Personnel Research and Development Center (NPRDC) has conducted studies to validate the test, as well as to replicate the validation studies of others [Ref. 5]. These studies support the

contention that the ASVAB is an accurate predictor of both training and job success. This is not to suggest that these methods of testing have been totally without problems. There was a notable incident between 1976 and 1980 when an error occurred in the norming of the test or conversion of test scores to percentiles. This error caused over 300,000 otherwise "ineligible" individuals to be granted entrance to the military.

If fewer than the optimal number of people required by the fleet are available through the normal qualifying means, the minimum ASVAB scores for admission to A-School may be waived. This waiver policy is controlled by the Naval Military Personnel Command. Research has been conducted on the practice of granting waivers to those who are not fully qualified for A-School [Ref. 6]. Individuals who were granted waivers showed a higher incidence of attrition in comparison to those who were fully-qualified. The research also pointed out that this waiver decision may be subjective, since it is often made by a single individual.

## B. ENLISTED NAVY TRAINING

Initial training for enlisted personnel in the Navy starts with "Boot Camp" at one of the Recruit Training Commands. Presently, these are located at Great Lakes, Illinois; Orlando, Florida; and San Diego, California. (As of this date, the Orlando, Florida Naval Training Center has been selected

for closure. The closure of the Naval Training Command at Orlando, Florida would affect "Boot Camp" and any other training school within the command. It is unclear at this time what the impact the base closures will have on A-Schools, but it is conceivable that class sizes will increase at the remaining Training Commands, potentially creating even higher attrition rates.) After satisfactorily completing recruit training, the recruit begins a phase of initial occupational training at a Navy A-School. Approximately three quarters of all recruits attend A-School.

A-Schools exist to train people for occupations in the Navy. Since the average targeted recruit is between 19 and 21 years of age, it is unlikely that an individual would come to the Navy with these technical skills in hand. A-Schools provide this specific training needed to support fleet operations.

The Navy's investment in specialized A-School training is considerable. As noted above, A-School attendance will number about 128,000 in fiscal 1991, and about 126,000 for fiscal 1992, totalling some 25,000 person-years for each of the two fiscal years [Ref. 7] [Ref. 1]. The projected graduation rate, however, does not match the number entering A-Schools. The expected graduation totals will be approximately 117,000 and 116,000 for fiscal 1991 and 1992, respectively [Ref. 1]. The difference between those entering A-School and those finally graduating are the number of

individuals who comprise the statistics of attrition. Approximately one-half of all attrition can be classified as "academic [Ref. 7]." It is evident that costs may be reduced by lowering attrition rates.

A-Schools are the most cost-effective method of supplying a trained force to the fleet [Ref. 2]. Further, personnel trained through the A-School system have a greater possibility of achieving a maximum level of productivity than do those individuals who receive their training through on-the-job experience [Ref. 8] [Ref. 5] [Ref. 9]. This has been demonstrated in studies in which productivity was measured by an individual's supervisor. The supervisors, identified by the workers themselves, were surveyed through the Enlisted Utilization Survey. These supervisors were required to assess subordinates' performance based on the amount of time the supervisor was required to inspect or instruct the individuals in their work. Supervisors completed the survey on only those individuals directly under their supervision. The supervisors compared these individuals with their peers. The supervisors were also requested to compare these individuals with what they believed was the level of performance that a "typical" technician (with equivalent experience), should have attained. In the majority of cases, it was believed that technicians were not fully proficient at a job in fewer than four years. However, these studies concluded that, indeed, the A-School graduate outperformed

others who did not graduate from A-School and reached a higher proficiency rate at a quicker pace.

Training pipelines for A-Schools range from a few weeks to two years in length. Recruits who are willing to volunteer for ratings requiring extensive training do so at the cost of obligating themselves to additional years of service. In turn, the Navy promotes these people to the rank of petty officer. This is in contrast to the typical sailor, who must wait the expected time in rank and service prior to becoming eligible for advancement.

### C. A-SCHOOL ATTRITION

For approximately 65 percent of personnel coming from recruit training, A-School is the next stop in the career path [Ref. 10]. The A-Schools selected for this study have a minimum attrition rate of 20 percent [Ref. 3, 10]. There are even A-School pipelines that have attrition rates exceeding 30 percent [Ref. 3, 10].

Attrition at A-Schools is attributed to academic, motivational, disciplinary, or administrative causes. Of those who do "attrite" for these reasons, 50 percent are due to academic reasons. Of those who leave prematurely, approximately 25 percent are reclassified for training in another skill, 8 percent are discharged from naval service, and the remaining 68 percent are sent to the fleet for general detail duty as "GENDET" sailors. [Ref. 7]

The specific cause, or reason, for dropping a student is determined by either a Military or Academic Review Board. Each A-School establishes the review boards for their specific schools. It is these review boards that award a Student Action Code (SAC). The SAC is a three-letter code that signifies the reason for dismissal. Inconsistencies have been noted in the procedures of the Academic Review Boards (ARB) at A-Schools [Ref. 1]. Among the inconsistencies noted in research are the following: the lack of standardization in the procedures of the boards; different setback policies that range from a single setback to schools that offer numerous setbacks for students; and the context of the procedures themselves ranging from a strict military environment to one that is more relaxed. Further evidence of the inconsistencies among various ARBs is that some A-Schools opt to choose a permanent chairperson, with that sole individual being responsible for the assigning of the SAC. Other A-Schools allow individuals from outside the academic arena to sit on boards. These inconsistencies may lead to subjectivity in the attrition process. After the ARB makes its decision, its findings are reported to the Enlisted Training and Tracking File (TRAINTRACK) through the Navy Integrated Resources and Administration System (NITRAS), and a notation, or SAC, becomes a part of the individual's service record.

In general, any person who qualifies for enlistment is a candidate for A-School. This includes those whose ages range

from 17 to 35 years. The probability of completing a first term, however, decreases with age [Ref. 11]. This is why the Navy, as well as the other services, concentrate their recruiting efforts on those individuals whose ages range from 17 to 21 years. These people are consequently considered the ideal candidates for A-School. Equally important, to ensure a good return on investment in A-School attendees, is that they need to serve a minimum of 35 months to reach an average payback where the benefits to the Navy outweigh the Navy's costs. [Ref. 12]

As indicated by the numbers of A-School attendees for fiscal 1991 and 1992, a substantial number of individuals will attend A-Schools in the future. This large number of attendees makes it easy to understand the Navy's concern with A-School attrition. High A-School attrition rates create a snowball effect. To accommodate these higher rates, higher recruiting goals must be met. Higher recruiting goals will attempt to ensure sufficient rating fill-rates to allow a proper sea/shore rotation to occur. High attrition rates contribute to a loss of resources, not only in training costs for the student and instructors but, perhaps more importantly, in the productivity of these individuals.

## D. NAVY ATTRITION

The Navy is concerned about early attrition because of the adverse effect that attrition has on the total force. This

concern has sparked numerous studies to identify the reasons why attrition occurs.

Evidence has shown that an enlistee's probability of "surviving" to the end of a first contract is related to his or her aptitude test scores, high school completion, and the chosen source of entry. Recruits who score average or above on the AFQT have demonstrated a greater probability of first term completion.

The most efficient indicator that an individual will complete a first-term contract is whether or not the individual is a high school diploma graduate (HSDG) [Ref. 12] [Ref. 13] [Ref. 14]. This finding has been substantiated many times in other studies [Ref. 15]. Therefore, this element has become the most important predictor of completion and commands much attention during the initial recruiting and classification processes. High school diploma graduates also show a greater completion rate than those who possess a General Education Development (GED) certificate or similar credential. [Ref. 15]

Personnel enrolled in the DEP (described in the introduction) are potential recruits who have successfully passed all the selection gates and are awaiting a more opportune time to actually enter the system. This postponement of enlistment may be based on personal choice or be necessary due to the availability of an open seat in a particular A-School. Regardless of the reason, data support the notion that

individuals who enter the military through the DEP show a lower incidence of attrition [Ref. 13]. The reasons for this lower attrition rate are unclear. Several explanations are offered. The first is that these people may be better adjusted to the transition from civilian life, since they have selected their own date of entry and allowed themselves additional time to prepare for Naval service. Another possible reason is that they will be receiving the training of their choice. A third explanation is that some individuals opt to leave the DEP without entering the military system, and it is unclear whether these recruits would be within the higher A-School attrition group or not. Regardless of the reason, it is clear is that fewer training dollars were lost on trainees who came to the Navy through the DEP.

Other characteristics of enlistees that are related to early exit from the military system include:

- a history of unemployment prior to service [Ref. 13]
- a history of several job changes prior to service [Ref. 13]
- married [Ref. 14]

Each of these characteristics has been shown to correlate positively with attrition during the first term.

## E. SUMMARY

Although evidence has demonstrated that certain personal characteristics (AFQT/ASVAB scores, ASVAB waivers, accession type, and high school diploma graduate status) are valid predictors of an individual's success in training, there continue to be high attrition rates at some Navy A-Schools. Based on the comparisons of the personal characteristics of A-School attendees, this study documents the job performance and retention of A-School graduates to non-graduates. The evidence from this study should assist Navy policy-makers in their continuing efforts to reduce personnel attrition.

## III. METHODOLOGY

The information required to capture the first-term enlistment experiences of A-school attendees is found in several flowpoints along the path of a person's first-term career progression. Central to these first-term experiences is A-School performance. A-School performance could be affected by where attendees have been and what they have done prior to attending an A-school. In turn, performance and retention subsequent to A-school may be expressly influenced by how well a person performs in A-school.

### A. DATA ACQUISITION

The information required to conduct data analyses was acquired from two different organizations. The source of training performance was the Enlisted Training and Tracking File (TRAINTRACK). This file was provided by Navy Personnel Research and Development Center (NPRDC) to be used by Naval Postgraduate School students and faculty in conducting research in the area of training. The file, which consists of variable length records, is a longitudinal chronicle of individual enlisted training histories dating from fiscal 1979 through the second quarter of fiscal 1990. Data for inclusion in TRAINTRACK is accumulated as schools report school attendance to the Navy Integrated Resources and Administration

System (NITRAS) [Ref. 16]. The second source of information was the Defense Manpower Data Center (DMDC). Data were extracted from the Active Duty Military Master and Loss Edit File, and consisted ofinformation on individuals who were accessed from 1982 through 1990 and had attended A-School at some point within that time span.

## B. A-SCHOOL PIPELINE SELECTION AND SPECIFICATION

Selection of A-Schools for the purpose of conducting analyses was based on A-School pipeline attrition rates averaged over the period from fiscal 1983 through fiscal 1991 (to date). A-School attrition rates were obtained from the Chief of Naval Education and Training (Code N311) [Ref. 3, 10]. Because of the large number of A-Schools, an attrition rate cutoff was established. By selecting only those schools which achieved an average A-School pipeline attrition rate of twenty percent or greater, a manageable number of schools (25) were identified, which would still provide a sufficient number of data observations to conduct various analyses. Selection of these schools was independent of any other characteristics such as degree of technical difficulty, number of personnel participating in a school per fiscal year, or length of school pipeline. Generally, the number of students attending A-Schools does not fluctuate drastically year after year. Furthermore, the schools selected have maintained a relatively high attrition rate over the period indicated, no matter how

many personnel were involved in training in a particular pipeline.

The decision to select schools from fiscal 1983 to date was made to insure the availability of sufficient data to carry out in-depth analyses. Further, average attrition rates over those years were utilized to avoid the risk of selecting or not selecting a pipeline based upon an attrition rate that might be an outlyer. It is assumed that individuals who fall within this time span have comparable social and technological backgrounds, thereby making analytical results consistent among the fiscal year cohorts.

Once A-School pipelines were specified, they were further delineated by the courses which comprise each pipeline. Courses within A-School pipelines are identified by Course Data Processing Code (CDP) in TRAINTRACK. A-School pipelines consist of one or more CDPs. Of the particular pipelines selected for this study, none require more than four CDPs for the attainment of a specified rate [Ref. 17]. Table 3.1 delineates the A-School pipelines selected for analysis, their associated average attrition rates for the period stated, and the CDPs of which they consist.

## C. DATA FILE FORMULATION

There were several critical steps and procedures involved in formulating the data files used in the analyses for this research. Initially, eight separate files were created for

fiscal 1983 fiscal 1990 from data in TRAINTRACK utilizing Version five of the Statistical Analysis System (SAS) software on the Naval Postgraduate School's IBM compatible AMDAHL mainframe computer. [Ref. 18]

The eight individual files were established instead of one comprehensive data file to allow for easier merging with data files from outside commands. Personnel training records were selected for these files by entering selected CDPs into a program on the mainframe. The program then identified all personnel by social security number (SSN) who reflected those CDPs in their TRAINTRACK files. TRAINTRACK is on three separate magnetic tapes with information for each fiscal year on all three. Therefore, to consolidate information from all three tapes for each fiscal year cohort, three separate subset files had to be produced to attain an accurate cohort file. Each set of three files was then merged into one corresponding fiscal year file and sorted by SSN. Once each fiscal year file was created, data provided by DMDC and NMPC could be merged by SSN with the existing files.

## D. DATA ANALYSIS

The data analyses of A-School attendees are divided into three major phases. The first phase is the analysis of attributes and experiences leading up to A-School attendance. Phase two consists of an examination of the relationship between A-School performance and subsequent performance and

**TABLE 3.1 SELECTED A-SCHOOL PIPELINES, AVERAGE ATTRITION RATES FOR THE PERIOD FISCAL 1983 THROUGH FISCAL 1991 (TO DATE), AND CORRESPONDING COURSE DATA PROCESSING CODES (CDPs)**

| AVERAGE RATING | CDPs | | | | ATTRITION RATE | |
|---|---|---|---|---|---|---|
| Electronics Technician Electronics Field (ET-AEF) | 615L | 603V | | | 37.2 | Advanced |
| Electronics Technician Field (ET-NF) | 611P | 130E | | | 33.4 | Nuclear |
| Gunner's Mate (GM) | 6400 | | | | 31.0 | |
| Interior Communications Electrician (IC) | 611T | | | | 30.8 | |
| Air Traffic Controller (AC) | 6278 | | | | 29.8 | |
| Firecontrolman (FC) | 609W | | | | 28.8 | |
| Opticalman (OM) | 6701 | | | | 27.1 | |
| Electrician's Mate (EM) | 6070 | | | | 26.4 | |
| Boiler Technician PSI-6YO Obligation (BT-6YO) | 601G | 614F | 614H | 6488 | 25.0 | |
| Cryptologic Maintenance Technician (CTM) | 605A | 6161 | | | 24.8 | |
| Aviation Anti-Submarine Warfare Operator (AW) | 6594 | 6597 | 6537 | | 24.1 | |
| Cryptologic Technician R (CTR) | 615A | | | | 23.9 | |
| Ocean Systems Technician Maintainer-6YO Obligation (OTM) | 610X | | | | 23.4 | |
| Pattern Maker (PM) | 6076 | | | | 23.2 | |
| Data Systems Technician (DS) | 6131 | | | | 22.8 | |
| Avionics Technician-Aviation Control Tech-6YO (AQ-6YO) | 610G | 6245 | | | 22.6 | |
| Electrician's Mate Nuclear Field (EM-NF) | 611R | 130E | | | 22.2 | |
| Radioman Submarine (RM-SS) | 6723 | 6708 | 6710 | | 21.9 | |
| Gas Turbine Systems Technician Elec (GSE-4YO) | 601G | 614V | 614S | 6718 | 21.9 | |
| Avionics Technician-Aviation Control Tech-4YO (AQ-4YO) | 6240 | | | | 21.8 | |
| Boiler Technician PSI-4YO (BT-4YO) | 601G | 6260 | 6486 | | 21.3 | |
| Electronics Technician Submarine (ET-SS) | 6723 | 6708 | 6711 | | 21.3 | |
| Strategic Weapons Systems (SWS) | 6371 | 6146 | 615S | 615T | 20.7 | |
| Gas Turbine Systems Technicien Mech (GSM-4YO) | 601G | 614W | 614T | 6720 | 20.4 | |
| Machinist's Mate Nuclear Field (MMN) | 611N | 130E | | | 19.8 | |

SOURCES: Chief of Naval Education and Training Notice 1514 dated September 1990; Chief of Naval Education and Training Rating Attrition Data dated 26 March 1991.

retention in the fleet. In the final phase a fiscal 1983 cohort is followed through their first several years of service in an attempt to substantiate the findings resulting from the first two phases. In all phases, frequency analyses is used to examine data associated with all attributes and experiences.

## E. PHASE ONE ANALYSIS

In phase one, the attributes and experiences of four different groups of A-School individuals prior to A-School attendance were investigated. The four groups include: graduates, academic attrites, non-academic attrites, and those personnel who were setback while in an A-School pipeline. This first phase was conducted in two parts. Part one involved the examination and comparison of graduates, academic attrites, and non-academic attrites. The second part consisted of the study of a group of personnel who were academically set back during A-School training. The academic set back is a reflection of performance throughout the period of A-School attendance, and was therefore considered to be independent of the three other groups investigated. The variables which have been analyzed in parts one and two are delineated in Figure 1 and described below.

### 1. HSDG vs. Non-HSDG

The first personnel attribute was that of a high school diploma. For each group it was determined whether

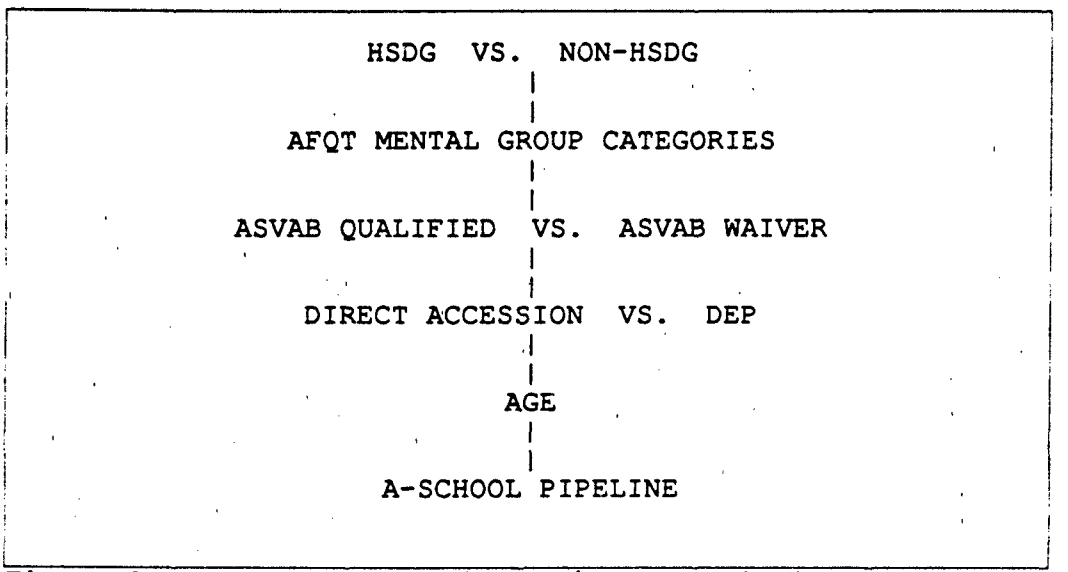


**Figure 1. Prevalent Experiences/Characteristics of A-School Attendees Prior to Entering an A-School Pipeline**

individuals either had obtained a high school diploma prior to entering the Navy or not. A high school diploma graduate is defined here as a person who obtained a degree through formal secondary education. A non-high school diploma graduate is a person who either received some sort of high school equivalency diploma or has never obtained a diploma of any type. The continual movement towards a higher quality force could be directly reflected in these results. A comparison among the four groups was conducted to identify differences or similarities in the results.

### 2. AFQT Categories

The next area of analysis was the study of AFQT percentile scores, a derivative of the ASVAB, among the four different A-School groups. For the purposes of this analysis, AFQT scores are divided into five categories, as shown in Table 3.2. Each A-school group's AFQT mental group distribution was established to determine where high and low category concentrations fell among personnel in the four groups.

**TABLE 3.2 AFQT CATEGORIES**

| CATEGORY | AFQT PERCENTILE SCORE |
|---|---|
| I | 93-99 |
| II | 65-92 |
| IIIA | 50-64 |
| IIIB | 31-49 |
| IV | 10-30 |

Source: Reference 4

### 3. ASVAB Qualified vs. ASVAB Waivered

The ASVAB was utilized to compare personnel who had A-School qualifying scores with those who required an ASVAB waiver to enter the selected A-School pipelines. Each A-School pipeline has a prerequisite ASVAB score for entrance into that pipeline. These two characteristics were examined for each of the four groups to identify trends in the outcomes.

### 4. Direct Accession vs. DEP

Another comparison was conducted between those personnel who were directly accessed into the Navy and

personnel who participated in the Delayed Entry Program (DEP). The comparison was once again performed for all four groups. Performance in A-School pipelines could be directly related to either of these two experiences.

5. **Age**

The distribution of ages of individuals contained within the data set was divided into three five-year groups. The groups equated to younger, middle aged, and older populations of personnel who attended A-School. Seventeen to 21 years of age was the interval used to represent the younger population. This age range was selected as a depiction of the general youth population currently being targeted by recruiting commands. The rest of the people in the data sample were placed in either of two subsequent groups consisting of intervals of twenty two to twenty six years and twenty seven to thirty four years. These three age groups were investigated for each of the four A-School groups to identify trends in the outcomes.

## F. PHASE TWO ANALYSIS

Phase two examined the relationship between A-School performance, performance subsequent to completion of selected A-school pipelines, and ultimate retention of personnel at several years of service points. This second phase was again conducted in two parts and investigated four groups of A-School individuals: graduates, academic attrites, non-academic

attrites, and setbacks. Part one compared groups of graduates, academic attrites, and non-academic attrites. Part two consisted of an examination, similar to part one, of setbacks. The experiences and characteristics analyzed in parts one and two are shown in Figure 2.

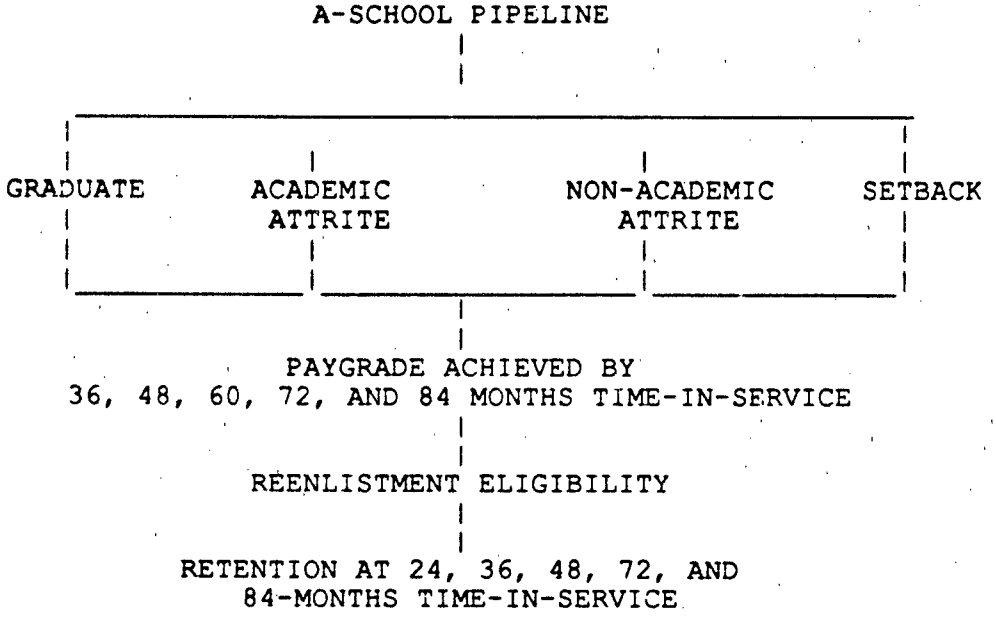


**Figure 2. Experiences/Characteristics of A-School Attendees Subsequent to A-School**

**1. Performance Subsequent to A-School**

Two measures were utilized to represent level of performance. The first measure was pay grade achieved by the time individuals completed each year of service from three to seven years. That final pay grade was compared with the individuals' pay grade at the time of accession. The results

served as a measure of achievement for each particular A-School group within their ratings. The second standard of performance was reenlistment eligibility, a more comprehensive gauge of achievement. Reenlistment eligibility consists of a set of minimum standards, for example a required minimum average enlisted evaluation score, that a person must meet in order to be considered for promotion. As in the first analytical phase, results from the A-School groups were contrasted to detect any indications of differences among them.

**2. Retention**

Separate from the prerequisite of being eligible for reenlistment is the final determination of whether individuals were retained subsequent to A-School. Retention outcomes of the A-School groups were established and then compared. An impelling query to be made in the context of analyses is, given the costs incurred in putting personnel through A-School pipelines only to have them setback and/or ultimately attrite, what kind of return is the Navy getting from these setbacks and attrites in terms of retention for further service. Personnel were examined at the 24-month, 36-month, 48-month, 72-month, and 84-month intervals of their time-in-service, to determine if they survived to those points in their careers.

## G. PHASE THREE ANALYSIS

Phase three was performed to verify and corroborate any findings discerned in the first two phases. A fiscal 1983 cohort of A-School attendees was used to verify the consistency of our previous analyses by way of its enlistment experiences, performance, and retention in the service. The question posed here was whether a particular cohort, not used in establishing our initial results, reflected the performance and retention characteristics similar to those found in the data set utilized in the initial analyses.

## H. SAS DATA PROGRAMMING

Frequency analyses in support of this research were conducted on the Naval Postgraduate School mainframe computer utilizing SAS software. In order to obtain more accurate, descriptive, and applicable results, a number of constraints and modifications to program operations were imposed upon the data. The following is a delineation of these constraints:

1. This research was intended to address only those individuals who have had no prior service in the military. Therefore, all prior service personnel were eliminated from the data set.

2. For the purposes of this research, no matter how many times a person was set back for academic reasons, that person was counted as only one observation of being set back.

3. There were certain non-academic attrition Student Action Codes (SACs) which were determined not to be pertinent to this analysis. These SACs would have admitted into the outcomes and conclusions of

the non-academic attrition analysis a certain degree of bias. The interjection of bias results from persons, included in the calculation of descriptive statistics concerning non-academic attrites, who have been non-academically attrited for reasons beyond his or her control. In the investigation of non-academic attrition, only those people who had some degree of control over whether they would be exposed to the possibility of non-academic attrition (ex. non-judicial punishment, drug abuse) were examined. The types of SACs excluded from this study included those for: hardship, pregnancy, medical reasons, homosexuality, death, physical disqualifications, administrative reasons. [Ref. 7] [Ref. 19]

4. The data provided on education, which was utilized to determine whether or not an individual possessed a high school diploma, were provided in a form which categorized some people as having a diploma and others as achieving education beyond high school. For the purpose of this research, all those individuals who had achieved education after high school graduation were counted as high school diploma graduates.

5. Personnel were categorized as either ASVAB qualified or requiring an ASVAB waiver for a particular A-School pipeline based upon formulas and other statistical information provided in other references. [Ref. 20] [Ref. 21] [Ref. 22]

## IV. ANALYSIS AND RESULTS

Frequency analyses were conducted on the data set, the data were converted to percentages, and are displayed in this chapter and in Appendix A. The sample population examined in phases one and two consisted of 96,989 people. A total of 3,336 people had prior service and were eliminated from the sample. The 1983 cohort analyzed in phase two of this study consisted of 12,020 people. All 25 A-School pipelines are represented in each section of the following analyses. All tables in the chapter should be read from left to right. All percentages within the tables have been rounded to one decimal place. Table 4.1 is provided for easy reference in understanding the results in the accompanying analyses.

**TABLE 4.1 EXPLANATION OF TERMS AND ABREVIATIONS**

| TERM/ABREVIATION | EXPLANATION |
|---|---|
| ASB | A-SCHOOL ACADEMIC SET BACK |
| NSB | A-SCHOOL PERSONNEL NOT SET BACK |
| GRAD | A-SCHOOL GRADUATE |
| ACAT | A-SCHOOL ACADEMIC ATTRITE |
| NACAT | A-SCHOOL NON-ACADEMIC ATTRITE |
| LOS | LENGTH OF SERVICE IN YEARS |
| HSDG | HIGH SCHOOL DIPLOMA GRADUATE |
| NONHSDG | NON-HIGH SCHOOL DIPLOMA GRADUATE |
| REENELG | REENLISTMENT ELIGIBLE |
| NONREENELG | NON-REENLISTMENT ELIGIBLE |
| DEP | DELAYED ENTRY PROGRAM |
| DIRACC | DIRECT ACCESSION |
| QUALIFIED | ASVAB-QUALIFIED FOR A-SCHOOL PIPELINE |
| WAIVERED | ASVAB-WAIVERED FOR A-SCHOOL PIPELINE |
| PG | PAY-GRADE |

Results contained in this chapter are not necessarily representative of the Navy as a whole, but rather only of the sample population utilized in conducting this research.

## A. PHASE ONE ANALYSIS AND RESULTS

### 1. HSDG vs. Non-HSDG

The first comparison made was between high school diploma status (graduated or not) and academic set back while enrolled in an A-School pipeline. Table 4.2 shows the results of this comparison.

**TABLE 4.2 HIGH SCHOOL DIPLOMA STATUS BY ACADEMIC SETBACK OR NON-SETBACK (PERCENT)**

| DIPLOMA STATUS | ASB | NSB | TOTAL |
|---|---|---|---|
| HSDG | 23.3 | 76.7 | 100.0 |
| NONHSDG | 26.1 | 73.9 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Fit File (Extract)

Of all HSDG personnel in this sample 23 percent received an academic set back. This compares with 26 percent of those without a diploma. This difference is quite small, considering general differences between graduates and nongraduates with respect to first-term attrition, where nongraduates have historically experienced a rate of turnover that is twice as large as that of graduates. These small differences may reflect the fact that nongraduates are typically required to have higher aptitude test scores than

their counterparts who have graduated from high school. In addition, many nongraduates who may have had a problem adjusting to the Navy were most likely discharged during their first several weeks of service, before entering A-School. This would also tend to be a "leveling device" for the expected attrition rates of graduates and nongraduates by the time they report for A-School.

The next step was to examine the distribution of high school diploma graduates and nongraduates in terms of final A-school completion. Table 4.3 shows these comparisons. Of note is that there is only a 2 percent relative difference between the percentage of HSDG graduates and NONHSDG graduates who graduate from A-School. The more noticeable difference comes in the academic and non-academic attrition categories. High school diploma graduates academically attrite at a slightly higher rate than their non-diploma counterparts. An inverse relation exists, however, in terms of non-academic attrition rates in which NONHSDG personnel have almost double the attrition rate as compared to HSDG people. (Non-academic attrition, as previously noted, may be due to reasons such as motivation, misconduct, or substance abuse.)

**TABLE 4.3 HIGH SCHOOL DIPLOMA STATUS BY A-SCHOOL GRADUATE STATUS (PERCENT)**

| DIPLOMA STATUS | GRAD | ACAT | NACAT | TOTAL |
|---|---|---|---|---|
| HSDG | 80.3 | 12.3 | 7.4 | 100.0 |
| NONHSDG | 78.3 | 8.3 | 13.4 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**2. AFQT Category**

The next variable examined in the first analysis phase was AFQT category. Table 4.4 represents the relative percentages of academic setbacks and those not set back among the top five AFQT groups. AFQT percentile scores are distributed among five primary categories, with those in category I at the top and those in category IV at the bottom of the aptitude range. (Persons who score in category V are ineligible for military service.) Categories I through IIIA include all persons who have scored above the 50th percentile, and persons with scores below IIIA are considered "below average" in aptitude. Through the first three categories, it can be seen that academic set back rates increase as one moves down the aptitude range. There is a 12 percent difference between persons in AFQT category I and those in AFQT category II, and a 22 percent difference between those in AFQT categories I and IIIA. Also of interest is the fact that academic set back rates across AFQT groups IIIA, IIIB, and IV are the same at about 32 percent. This is unusual, given the

wide dispersion of possible AFQT scores across the three groups.

**TABLE 4.4 AFQT CATEGORY BY ACADEMIC SETBACK OR NON-SETBACK (PERCENT)**

| CATEGORY | ASB | NSB | TOTAL |
|---|---|---|---|
| I | 9.8 | 90.2 | 100.0 |
| II | 21.8 | 78.2 | 100.0 |
| IIIA | 31.6 | 68.4 | 100.0 |
| IIIB | 31.6 | 68.4 | 100.0 |
| IV | 32.4 | 67.6 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

AFQT categories were then utilized to determine possible relationships among graduates, and academic and non-academic attrites. As indicated in Table 4.5, category I personnel came out with the highest graduation rate of 86 percent. People in AFQT categories IIIB and IV actually had higher graduation rates of 80.8 percent and 79.8 percent, respectively, than did those in AFQT groups II (79 percent) and IIIA (78 percent). This sample distribution runs contrary to previous research in the field of AFQT categories and their relationship to A-School cohorts. Academic attrition rates were spread out rather evenly among those categories II through IV. Non-academic attrition rates were relatively equal across all AFQT groups, although it is interesting to note that the lowest rates were found in categories IIIB and IV.

**TABLE 4.5 AFQT CATEGORY BY A-SCHOOL GRADUATION STATUS (PERCENT)**

| CATEGORY | GRAD | ACAT | NACAT | TOTAL |
|---|---|---|---|---|
| I | 85.8 | 7.3 | 6.9 | 100.0 |
| II | 79.1 | 12.6 | 8.3 | 100.0 |
| IIIA | 77.9 | 13.6 | 8.5 | 100.0 |
| IIIB | 80.8 | 13.0 | 6.2 | 100.0 |
| IV | 79.8 | 14.3 | 5.9 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

### 3. ASVAB Qualified vs. ASVAB Waiver

Individuals were next compared on the basis of whether they attained an ASVAB score that qualified them for a particular A-School pipeline or had to receive an ASVAB waiver. Table 4.6 indicates that 19.1 percent of all ASVAB-qualified people were academically set back. In contrast, 44.6 percent of ASVAB-waivered personnel had been set back for academic reasons. Therefore, a relatively large difference of 25.5 percent occurred between the two ASVAB groups.

In comparing ASVAB-qualified and ASVAB-waivered groups across distributions of A-School graduates, academic, and non-academic attrites, Table 4.7 shows that the percentages favor ASVAB-qualified personnel across the board. Persons who were ASVAB-qualified had a higher percenytage of graduates than did those who were waivered. Qualified persons also achieved lower

**TABLE 4.6 ASVAB-QUALIFIED COMPARED WITH ASVAB-WAIVERED IN RELATION TO ACADEMIC SETBACK OR NON-SETBACK (PERCENT)**

| QUALIFIED/WAIVERED | ASB | NSB | 3TOTAL |
|---|---|---|---|
| QUALIFIED | 19.1 | 80.9 | 100.0 |
| WAIVERED | 44.6 | 55.4 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

academic and non-academic attrition rates than did waivered individuals.

**TABLE 4.7 ASVAB-QUALIFIED COMPARED TO ASVAB-WAIVERED IN RELATION TO A-SCHOOL GRADUATION STATUS**

| QUALIFIED/ WAIVERED | GRAD | ACAT | NACAT | TOTAL |
|---|---|---|---|---|
| QUALIFIED | 83.7 | 11.8 | 4.5 | 100.0 |
| WAIVERED | 76.9 | 16.9 | 6.2 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**4. DEP vs. Direct Accession**

Personnel were next examined with respect to whether they entered the Navy directly or through the DEP. Table 4.8 denotes academic set back rates among DEP and DIRACC personnel. The data indicate that DEP individuals are academically set back at a slightly higher rate than are those who entered the Navy directly.

Table 4.9 examined the individual's enlistment route (DEP or DIRACC) with respect to graduation, academic and non-

**TABLE 4.8 ACCESSION TYPE BY ACADEMIC SETBACK OR NON-SETBACK (PERCENT)**

| ACCESSION TYPE | ASB | NSB | TOTAL |
|---|---|---|---|
| DEP | 23.0 | 77.0 | 100.0 |
| DIRACC | 21.3 | 78.7 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

academic attrition rates. Once again, the differences between the two groups were small. The graduation rate for persons who were in the DEP was somewhat higher than for those categorized as DIRACC. Both academic and non-academic attrition rates were also slightly lower for those who were in the DEP than for those in the DIRACC sample. These results are consistent with previous research showing that the first-term attrition rate of persons who enter the Navy through the DEP are generally lower than the rates of those who enter directly.

**TABLE 4.9 ACCESSION TYPE BY A-SCHOOL GRADUATION STATUS (PERCENT)**

| ACCESSION TYPE | GRAD | ACAT | NACAT | TOTAL |
|---|---|---|---|---|
| DEP | 80.2 | 12.0 | 7.8 | 100.0 |
| DIRACC | 77.9 | 12.5 | 9.6 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**5. Age**

Analysis of the relationship between age and academic set back rates revealed no difference in ASB rates among

people in the 17-21 and 22-26 age ranges. Table 4.10 shows a 23 percent ASB rate for each of the two age groups. People in the 27-34 age group, however, have a considerably higher rate of academic set back at 32 percent.

**TABLE 4.10 AGE BY ACADEMIC SETBACK OR NON-SETBACK (PERCENT)**

| AGE RANGE (YEARS) | ASB | NSB | TOTAL |
|---|---|---|---|
| 17-21 | 22.8 | 77.2 | 100.0 |
| 22-26 | 23.1 | 76.9 | 100.0 |
| 27-34 | 32.3 | 67.7 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Graduate and attrition rates were also compared on the basis of the three age ranges. As indicated in Table 4.11, persons in the 22-26 age group tend to have a slightly higher rate of graduation and a slightly lower rate of academic attrition than do either of the other two groups. At the same time, persons in the 17-21 age range have a slightly higher rate of non-academic attrition than do those in the 22-26 or 27-34 age ranges. In terms of overall academic performance in terms of academic set back and academic attrition rates, the 27-34 age group did not perform as well as the other two groups.

**TABLE 4.11 AGE BY A-SCHOOL GRADUATION STATUS**

| AGE RANGE (YEARS) | GRAD | ACAT | NACAT | TOTAL |
|---|---|---|---|---|
| 17-21 | 82.1 | 12.1 | 5.8 | 100.0 |
| 22-26 | 84.7 | 10.6 | 4.7 | 100.0 |
| 27-34 | 82.6 | 13.8 | 3.6 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

## B. PHASE TWO

An analysis was conducted of three characteristics of performance and retention subsequent to A-School performance to determine their relationship to performance during A-School: survivor rates, rates of promotion, and reenlistment eligibility.

### 1. Survivor Rates

Survivor rates, used as a measure of retention, were first utilized to compare ASBs and NSBs. Table 4.12 indicates that across all length-of-service flow points examined, indviduals not set back in A-School had a higher frequency of remaining in the Navy than did ASBs. The gap between the two groups narrowed, however, by LOS 7. This may indicate that as time in service increases, the affects of being academically set back tend to diminish.

Table 4.13 shows the percentages of A-School graduates, and academic and non-academic attrites remaining in the Navy to LOS 7. At every LOS flow point, more graduates

**TABLE 4.12 SURVIVOR RATE BY ACADEMIC SETBACK OR NON-SETBACK (PERCENT)**

| STATUS | LOS 2 | LOS 3 | LOS 4 | LOS 6 | LOS 7 |
|---|---|---|---|---|---|
| ASB | 64.2 | 48.1 | 26.0 | 7.3 | 3.2 |
| NSB | 68.1 | 51.2 | 33.4 | 10.0 | 4.1 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

remained than did the other two groups. The difference in rates between graduates and academic attrites averaged 5 percent over LOS 2, LOS 3, and LOS 4. The gap between these two groups was eventually eliminated by LOS 7. Persons who experienced non-academic attrition had a much lower incidence of survival compared with the other two groups.

**TABLE 4.13 SURVIVOR RATES BY A-SCHOOL GRADUATION STATUS (PERCENT)**

| STATUS | LOS 2 | LOS 3 | LOS 4 | LOS 6 | LOS 7 |
|---|---|---|---|---|---|
| GRAD | 70.1 | 53.6 | 33.5 | 10.1 | 4.0 |
| ACAT | 65.3 | 49.3 | 27.4 | 8.4 | 4.2 |
| NACAT | 41.0 | 29.2 | 14.3 | 5.0 | 2.1 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

### 2. Rates of Promotion

Pay grade distributions were used as the first of two measures of performance. Pay grade distributions and length of service are closely related in this analysis. People survive

to different lengths of service. Of those people who survive, we wanted to know how they were distributed across pay grades. It is realized that some of the differences in percentages among the groups examined may be explained in a couple of ways. Some individuals who, after attriting from A-School, are sent to the fleet as GENDET personnel, and are thus required to basically start over again in a rate, thereby falling behind their A-School graduate "peers." Other individuals are promoted to E-4 upon completion of A-School because of contractual agreements. The purpose of this analysis, however, was to show the impact of attriting upon the Navy getting its "moneys worth" out of a sailor subequent to A-School training. The results provided by this analysis reinforce our belief that A-School graduates, relative to A-School attrites, make a much greater contribution to the overall quality of the Navy.

Pay grade distributions were analyzed for personnel who entered the Navy under contractual agreements as either E-1s, E-2s, E-3s, or E-4s. These people were studied over the course of seven years of service. The analysis was conducted in two parts. The first part compared academic set backs and those who were not set back by LOS. Tables 4.14a through 4.17 are read as relative percentages of ASBs and NSBs across pay grades from the third to the seventh year of service.

Tables 4.14A and 4.14B reflect the relationship of pay grade to whether a person entering the Naval service as an E-1

had been academically set back or not. Across the five years examined, people who were NSBs attained pay grade distributions consistently higher than did those who were ASBs. At LOS 3, 16.6 percent of NSBs were E-5s and above compared with 6.5 percent for ASBs. LOS 4 shows that 27.4 percent of ASBs and 45.1 percent of NSBs attained E-5 or above. At LOS 5, 69.1 percent of NSBs were E-5s and above compared with 56.5 percent for ASBs, a difference of 12.6 percent. By LOS 6, the difference had narrowed between the two groups to 76.3 percent for NSBs, compared with 75.1 percent for ASBs, who had attained the rank of E-5 or above.

**TABLE 4.14A PERCENTAGE DISTRIBUTIONS OF PERSONNEL ENTERING THE NAVY AT PAY-GRADE E-1 BY PAY-GRADE AND ACADEMIC SETBACK TO NON-SETBACK STATUS, FOR LOS 3-5 YEARS**

| | LOS 3 | | LOS 4 | | LOS 5 | |
|---|---|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-1 | 0.6 | 0.9 | 0.2 | 0.5 | 0.0 | 0.3 |
| E-2 | 2.5 | 2.1 | 1.2 | 0.8 | 1.0 | 0.4 |
| E-3 | 21.4 | 17.4 | 8.6 | 7.4 | 4.0 | 3.2 |
| E-4 | 68.9 | 63.0 | 62.6 | 46.2 | 38.5 | 27.0 |
| E-5 | 6.6 | 16.6 | 27.4 | 45.1 | 56.3 | 66.4 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 2.7 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.14B PERCENTAGE DISTRIBUTIONS OF PERSONNEL ENTERING THE NAVY AT PAY-GRADE E-1 BY PAY-GRADE AND ACADEMIC SETBACK AND NON-SETBACK STATUS, FOR LOS 6 AND 7 YEARS**

| | LOS 6 | | LOS 7 | |
|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB |
| E-1 | 0.0 | 0.2 | 0.0 | 0.0 |
| E-2 | 1.0 | 0.2 | 0.0 | 0.0 |
| E-3 | 1.6 | 2.5 | 3.3 | 1.7 |
| E-4 | 22.3 | 20.8 | 18.9 | 17.1 |
| E-5 | 71.1 | 67.2 | 63.3 | 63.8 |
| E-6 | 4.0 | 9.1 | 14.5 | 17.4 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Tables 4.15a and 4.15b show the distributions of personnel who entered the Navy as E-2s. Once again, across the LOS cells NSBs were promoted at a faster rate than were ASBs. There was 18.5 percent difference in favor of NSBs among pay grade distributions for E-5s and above at LOS 3, and a 22.7 percent difference in favor of NSBs among pay grade distributions for E-5s and above at LOS 4. In LOS 5 and LOS 6, NSBs enjoyed an advantage of 16 percent and 13.3 percent, respectively, at the level of E-5 or above. At LOS 7, the gap narrowed between ASBs and NSBs at pay grades of E-5 and above, with NSBs exceeding ASBs by 14.9 percent.

**TABLE 4.15A PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-2 BY PAY-GRADE AND ACADEMIC SETBACK AND NON-SETBACK STATUS, FOR LOS 3-5 YEARS**

| | LOS 3 | | LOS 4 | | LOS 5 | |
|---|---|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-2 | 1.5 | 1.1 | 0.5 | 0.3 | 0.0 | 0.6 |
| E-3 | 12.0 | 9.7 | 5.7 | 2.7 | 3.4 | 2.0 |
| E-4 | 71.1 | 55.3 | 53.8 | 34.3 | 35.8 | 19.6 |
| E-5 | 15.4 | 33.9 | 40.0 | 62.6 | 60.2 | 75.1 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.1 | 0.6 | 2.7 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.15B PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-2 BY PAY-GRADE AND ACADEMIC SETBACK AND NON-SETBACK STATUS, FOR LOS 6-7 YEARS**

| | LOS 6 | | LOS 7 | |
|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB |
| E-2 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-3 | 2.9 | 1.0 | 4.3 | 0.7 |
| E-4 | 26.7 | 15.3 | 23.4 | 12.1 |
| E-5 | 66.8 | 71.6 | 61.7 | 62.9 |
| E-6 | 3.6 | 12.1 | 10.6 | 24.3 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Tables 4.16a and 4.16b show the percentage distributions by pay grade of personnel who were accessed into the Navy at the level of E-3. The differences in distributions

between ASBs and NSBs are even more pronounced than in the E-1 and E-2 comparisons. At LOS 3, the proportion of E-5s and above was 44 percent for NSBs compared with 22 percent for ASBs. At LOS 4, the difference between ASBs and NSBs for E-5s and above was 22.1 percent. This percentage decreased to 12.3 percent by LOS 5, but there was still a 13.1 percent point difference between NSB E-6s and above as compared to ASB E-6s and above. The percentage advantage held by NSBs at the E-6 and above area increased to 24 percent by LOS 6, and was again 21.4 percent at LOS 7.

**TABLE 4.16A PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-3 BY PAY-GRADE AND ACADEMIC SETBACK AND NON-SETBACK STATUS, FOR LOS 3-5 YEARS**

| | LOS 3 | | LOS 4 | | LOS 5 | |
|---|---|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-3 | 10.3 | 6.1 | 3.4 | 2.5 | 1.4 | 1.1 |
| E-4 | 67.5 | 49.9 | 49.3 | 28.1 | 23.8 | 11.8 |
| E-5 | 22.2 | 44.0 | 47.3 | 68.9 | 71.7 | 70.9 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.5 | 3.1 | 16.2 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.16B PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-3 BY PAY-GRADE AND ACADEMIC SETBACK AND NON-SETBACK STATUS, FOR LOS 6-7 YEARS**

| | LOS 6 | | LOS 7 | |
|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB |
| E-3 | 1.1 | 0.4 | 0.3 | 0.5 |
| E-4 | 13.2 | 5.6 | 7.1 | 3.5 |
| E-5 | 68.6 | 52.9 | 56.1 | 38.1 |
| E-6 | 17.1 | 41.1 | 36.5 | 57.9 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Finally, Tables 4.17a and 4.17b show the percentage distributions by pay grade of ASBs and NSBs for personnel who entered the Navy at the level of E-4. NSBs held an 11.4 percent advantage over ASBs in terms of pay grade dispersion for E-5s and above at LOS 3. This percentage difference was reduced slightly to 10 percent by LOS 4. By LOS 5, the pay grade distributions for E-5s and above was 8.8 percent higher for NSBs than for ASBs, and the pay grade distributions for E-6s and above was 42.3 percent higher for NSBs than for ASBs. An even larger variance of 49.4 percent for E-6s and above was experienced by LOS 6.

The second part of this analysis examines the pay grade distributions of Navy personnel (by LOS) for A-School graduates, academic attrites, and non-academic attrites.

**TABLE 4.17A PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-4 BY PAY-GRADE AND ACADEMIC SETBACK AND NON-SETBACK STATUS, FOR LOS 3-5 YEARS**

| | LOS 3 | | LOS 4 | | LOS 5 | |
|---|---|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-4 | 42.9 | 31.5 | 26.8 | 16.8 | 15.0 | 6.2 |
| E-5 | 57.1 | 68.5 | 73.2 | 78.7 | 83.0 | 49.5 |
| E-6 | 0.0 | 0.0 | 0.0 | 4.5 | 2.0 | 44.3 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.17B PERCENTAGE DISTRIBUTION OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-4 BY PAY-GRADE AND ACADEMIC SETBACK AND NON-SETBACK STATUS, FOR LOS 6-7 YEARS**

| | LOS 6 | | LOS 7 | |
|---|---|---|---|---|
| PG | ASB | NSB | ASB | NSB |
| E-4 | 0.0 | 2.8 | 0.0 | 1.5 |
| E-5 | 80.0 | 27.8 | 0.0 | 18.3 |
| E-6 | 20.0 | 69.4 | 100.0 | 79.8 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.4 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Tables 4.18A through 4.21 describe these relationships in the same way as in the preceding analysis of ASBs and NSBs.

Tables 4.18A, 4.18B, and 4.18C reflect the relationship of pay grade distributions to whether a person entering the Naval service as an E-1 had been academically set back or not. At LOS 3, 14.2 percent of graduates were at pay grades of E-5 or higher, compared with 3.6 percent for ACATs and 3 percent for NACATs. A distinct difference in pay grade for E-5s and above develops at LOS 4, where GRADs are approximately 25 percent higher than ACATs and NACATs. This trend continues through LOS 7.

**TABLE 4.18A PAY-GRADE DISTRIBUTION OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-1 FOR LOS 3-4 YEARS**

| | LOS 3 | | | LOS 4 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-1 | 0.8 | 1.7 | 1.5 | 0.4 | 0.0 | 0.0 |
| E-2 | 2.0 | 3.9 | 8.5 | 0.8 | 1.3 | 5.6 |
| E-3 | 16.2 | 36.3 | 39.0 | 6.8 | 17.1 | 18.5 |
| E-4 | 66.8 | 54.5 | 48.0 | 50.2 | 65.9 | 59.3 |
| E-5 | 14.2 | 3.6 | 3.0 | 41.8 | 15.7 | 16.6 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Tables 4.19A, 4.19B, and 4.19C describe how personnel who entered this service as E-2s were distributed for GRADs, ACATs and NACATs. The same trends can be seen here as those

**TABLE 4.18B PAY-GRADE DISTRIBUTIONS OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-1, FOR LOS 5-6 YEARS**

| | LOS 5 | | | LOS 6 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-1 | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| E-2 | 0.5 | 0.8 | 3.0 | 0.4 | 0.0 | 5.0 |
| E-3 | 2.4 | 10.0 | 12.1 | 2.1 | 6.7 | 0.0 |
| E-4 | 28.9 | 51.5 | 36.4 | 20.6 | 32.0 | 35.0 |
| E-5 | 65.7 | 37.7 | 48.5 | 68.1 | 58.7 | 60.0 |
| E-6 | 2.3 | 0.0 | 0.0 | 8.5 | 2.6 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.18C PAY-GRADE DISTRIBUTIONS OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-1, FOR LOS 7**

| | LOS 7 | | |
|---|---|---|---|
| PG | GRAD | ACAT | NACAT |
| E-1 | 0.0 | 0.0 | 0.0 |
| E-2 | 0.0 | 0.0 | 0.0 |
| E-3 | 1.9 | 2.5 | 11.1 |
| E-4 | 16.9 | 27.5 | 33.3 |
| E-5 | 63.0 | 60.0 | 44.5 |
| E-6 | 18.2 | 10.0 | 11.1 |
| TOTAL | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training And Tracking File/Active Duty Military Master and Loss Edit File (Extract)

found in the analysis of E-1s. By LOS 3, a distinct difference can be seen in the dispersion of E-5s and above. The

percentage of E-5s and above here is over twice as great as that of ACATs, and over three times as great as that of NACATs. By LOS 4, 57 percent of GRADs were E-5s and above compared with 26 percent for ACATs and 19.6 for NACATs. By LOS 5 there was approximately a 30 percent difference between GRADs as opposed to ACATs and NACATs. By LOS 7, 86.7 percent of GRADs were E-5s and above while ACATs and NACATs were at 50 percent and 66.7 percent, respectively. Of note in this sample of E-2s is that starting with LOS 5 and continuing through LOS 7, NACATs had a relatively higher percentage distribution at E-5s and above than did ACATs.

**TABLE 4.19A PAY-GRADE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL WHO ENTERED THE NAVY AT PAY-GRADE E-2, FOR LOS 3-4 YEARS**

| | LOS 3 | | | LOS 4 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-2 | 0.9 | 3.4 | 5.0 | 0.3 | 0.4 | 2.0 |
| E-3 | 8.4 | 25.0 | 28.2 | 2.9 | 11.2 | 13.7 |
| E-4 | 61.2 | 60.7 | 58.3 | 39.0 | 62.4 | 64.7 |
| E-5 | 29.5 | 10.9 | 8.5 | 57.8 | 26.0 | 19.6 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Tables 4.20A, 4.20B, and 4.20C show the pay grade distributions for personnel who were accessed as E-3s in relation to A-School performance. At LOS 3 the percentage of

**TABLE 4.19B PAY GRADE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL FOR PERSONNEL WHO ENTERED THE NAVY AS A E-2, FOR LOS 5 AND 6**

| | LOS 5 | | | LOS 6 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-2 | 0.3 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-3 | 1.9 | 8.4 | 13.3 | 1.4 | 3.1 | 16.7 |
| E-4 | 22.5 | 44.8 | 40.0 | 18.6 | 30.8 | 0.0 |
| E-5 | 73.2 | 44.8 | 46.7 | 69.2 | 59.0 | 83.3 |
| E-6 | 2.1 | 1.0 | 0.0 | 10.8 | 5.1 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.19C PAY-GRADE DISTRIBUTION OF GRADUATES OF A-SCHOOL OR PERSONNEL WHO ENTERED THE NAVY AT PAY-GRADE E-2, FOR LOS 7**

| | LOS 7 | | |
|---|---|---|---|
| PG | GRAD | ACAT | NACAT |
| E-2 | 0.0 | 0.0 | 0.0 |
| E-3 | 0.6 | 7.1 | 0.0 |
| E-4 | 12.7 | 42.9 | 33.3 |
| E-5 | 63.9 | 42.9 | 66.7 |
| E-6 | 22.8 | 7.1 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

GRADs at E-5 was more than double that of NACATs, and about four times that of ACATs. The differences are even larger at

LOS 4, where there was a 39.6 percent higher distribution of E-5 and above GRADs in contrast to NACATs, and a 15.3 percent difference between GRADs and ACATs. At the LOS 5 point the same type of variance can be seen in the distribution of E-6s and above. This trend continued through LOS 7.

**TABLE 4.20A PAY-GRADE DISTRIBUTIONS OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-3, FOR LOS 3-4 YEARS**

| | LOS 3 | | | LOS 4 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-3 | 4.8 | 14.3 | 32.6 | 2.2 | 5.0 | 13.6 |
| E-4 | 52.1 | 66.2 | 57.7 | 31.2 | 43.7 | 59.4 |
| E-5 | 43.1 | 19.5 | 9.7 | 66.2 | 51.3 | 27.0 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

Finally, in Tables 4.21A, 4.21B, and 4.21C the pay grade for individuals who entered the Navy at the level of E-4 were contrasted in terms of how they performed in A-School. Once again, GRADs attained higher pay grades in less time than did either ACATs or NACATs. At LOS 3, there were 32.9 percent more GRADs than ACATs who were E-5s and above, and 51 percent greater number of GRADs than NACATs. At LOS 4, the relative percentages among the three groups at E-5 and above decreased,

**TABLE 4.20B PAY GRADE DISTRIBUTIONS OF A-SCHOOL GRADUATES ENTERING THE NAVY AT PAY-GRADE E-3, FOR LOS 5 AND 6**

| | LOS 5 | | | LOS 6 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-3 | 1.1 | 1.6 | 5.2 | 0.5 | 1.1 | 2.8 |
| E-4 | 13.7 | 20.0 | 33.7 | 6.5 | 12.2 | 19.0 |
| E-5 | 69.5 | 75.4 | 60.7 | 52.6 | 69.7 | 72.6 |
| E-6 | 15.7 | 3.0 | 0.4 | 40.4 | 17.0 | 5.6 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.20C PAY-GRADE DISTRIBUTIONS OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-3, FOR LOS 7**

| | LOS 7 | | |
|---|---|---|---|
| PG | GRAD | ACAT | NACAT |
| E-3 | 0.4 | 0.4 | 2.9 |
| E-4 | 3.5 | 8.7 | 4.3 |
| E-5 | 37.8 | 54.8 | 71.0 |
| E-6 | 58.3 | 36.1 | 21.8 |
| TOTAL | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

but still remained large. The differences were 14.6 percent between GRADs and ACATs, and 36.7 percent between GRADs and NACATs. The differences continued to narrow through LOS 5, LOS 6, and LOS 7. At LOS 5, however, distinct differences in percentages at the level of E-6 and above among the three

groups become apparent. At LOS 5, there is a 41.3 percent difference of E-6s and above between GRADs and ACATs, and a 50.6 percent difference between GRADs and NACATs. At LOS 6, the differences among GRADs and ACATs, and GRADs and NACATs were 40 percent and 60.5 percent, respectively. By LOS 7, there were 35.1 percent more GRADs who were E-6s and above than ACATs who were E-6s, and 52.8 percent more GRADs who were E-6s than NACATs who were E-6s.

**TABLE 4.21A PAY-GRADE DISTRIBUTION OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-4, FOR LOS 3-4 YEARS**

| | LOS 3 | | | LOS 4 | | |
|---|---|---|---|---|---|---|
| **PG** | **GRAD** | **ACAT** | **NACAT** | **GRAD** | **ACAT** | **NACAT** |
| **E-4** | 25.3 | 58.2 | 76.3 | 13.9 | 28.5 | 50.6 |
| **E-5** | 74.7 | 41.8 | 23.7 | 80.6 | 71.3 | 48.1 |
| **E-6** | 0.0 | 0.0 | 0.0 | 5.5 | 0.2 | 1.3 |
| **E-7** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **TOTAL** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

### 3. Reenlistment Eligibility

The second variable utilized to measure performance subsequent to A-School was whether a person was considered "reenlistment eligible" at the end of his or her first

**TABLE 4.21B PAY GRADE DISTRIBUTIONS OF A-SCHOOL GRADUATES ENTERING THE NAVY AT PAY-GRADE E-4, FOR LOS 5-6 YEARS**

| | LOS 5 | | | LOS 6 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-4 | 5.3 | 10.5 | 23.7 | 1.9 | 6.1 | 12.0 |
| E-5 | 44.1 | 80.2 | 76.3 | 20.9 | 56.7 | 71.3 |
| E-6 | 50.6 | 9.3 | 0.0 | 77.2 | 37.2 | 16.7 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Enlisted T. ining and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

**TABLE 4.21C PAY-GRADE DISTRIBUTION OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-4, FOR LOS 7**

| | LOS 7 | | |
|---|---|---|---|
| PG | GRAD | ACAT | NACAT |
| E-4 | 0.5 | 4.0 | 11.8 |
| E-5 | 10.9 | 43.0 | 52.9 |
| E-6 | 88.1 | 53.0 | 35.3 |
| E-7 | 0.5 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

enlistment. Personnel who had been academic set backs were compared with those who had not been set back, according to this variable. Table 4.22 indicates that 60.5 percent of those who were not set back were reenlistment eligible compared with 55 percent of academic setbacks.

**TABLE 4.22 REENLISTMENT ELIGIBILITY RATES BY ACADEMIC SETBACK AND NON-SETBACK (PERCENT)**

| STATUS | REENELG | NONREENELG | TOTAL |
|---|---|---|---|
| ASB | 55.0 | 45.0 | 100.0 |
| NSB | 60.5 | 39.5 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

The second part of the analysis compared the reenlistment rates of graduates, academic attrites, and non-academic attrites. The outcome of this comparison, as seen in Table 4.23, indicates that only 23.4 percent of those who were NACATs were considered "reenlistment eligible" as opposed to 66.5 percent for GRADs and 60.6 percent for ACATs. The difference between GRADs and NACATs was 43.1 percent.

**TABLE 4.23 REENLISTMENT ELIGIBILITY RATES BY A-SCHOOL GRADUATION STATUS (PERCENT)**

| STATUS | REENELG | NONREENELG | TOTAL |
|---|---|---|---|
| GRAD | 66.5 | 33.5 | 100.0 |
| ACAT | 60.6 | 39.4 | 100.0 |
| NACAT | 23.4 | 76.6 | 100.0 |

Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File (Extract)

## C. PHASE THREE

Phase three was an analysis of a 1983 cohort in terms of the same variables addressed in Phases One and Two. The

results obtained were compared to outcomes from the first two phases of the analysis. The comparison showed that very similar relationships existed among academic setbacks and non-setbacks, as well as among graduates, academic attrites, and non-academic attrites across all variables examined, with the exception of the few differences noted below. The results of this analysis, presented in Appendix A, are summarized below.

High school diploma graduates had a lower percentage of setbacks than did non-diploma graduates. A higher percentage of HSDGs graduated from A-School as compared to NONHSDGs, and NONHSDGs showed a higher incidence of non-academic attrition.

The incidence of ASBs increased consistently from AFQT category I through IIIA. Persons in categories IIIB and IV, however, had a lower frequency of being academically set back than did those in category IIIA. In contrast to this characteristic, the overall sample analysis indicated that categories IIIA, IIIB and IV had similar set back rates. The percentage of graduates was equivalent among categories I, IIIB, and IV, while persons in upper AFQT groups showed a higher rate of being a NACAT than did those in the lower groups. Except for category I, academic attrition was relatively the same across categories II through IV.

ASVAB-qualified personnel exhibited a lower incidence of being set back than did those who possessed an ASVAB waiver. Qualified people also graduated at a higher rate than did

waivered individuals. Waivered personnel showed slightly higher percentages of being both ACATs and NACATs.

People who were directly accessed into the Navy were more likely to be set back academically than were personnel who participated in the DEP. In contrast, the overall sample analysis indicated that DEP personnel had a slightly higher rate of being academically set back than did people who were directly accessed. In addition, persons in the DEP graduated at a higher rate than did their counterparts who joined the Navy directly.

Persons in the 27-34 age group included a slightly higher percentage of ASBs than did their counterparts in the 17-21 and 22-26 groups. Persons in the 22-26 and 27-34 groups, on the other hand, had higher percentages of graduates than those in the 17-21 group; and persons in the 17-21 group possessed the highest percentages of attrition for both academic and non-academic causes.

Non-academic set backs showed a consistently higher incidence of remaining in the Navy from LOS 2 through LOS 7 as compared with academic set backs. A higher percentage of A-School graduates remained in the Navy longer than did either of the attrition categories. NACATs exhibited a much smaller percentage of being retained in the service when compared with GRADs and ACATs.

The results of the examination of rates of promotion in Phases One and Two were reflected in the cohort analysis as

well. Non-academic setbacks were promoted more quickly and at a higher percentage in relation to ASBs; and graduates were promoted at a faster rate and more often than either ACATs or NACATs. Non-academic attrites consistently exhibited the lowest rate of promotion throughout the LOS cells.

Finally, NSBs showed a higher frequency than did ASBs of being "reenlistment eligible." At the same time, graduates were more likely than either ACATs or NACATs of being reenlistment eligible. NACATs had a much lower percentage of reenlistment eligibility in relation to the other two groups.

# V. CONCLUSIONS AND RECOMMENDATIONS

The purpose of this thesis was two-fold:

1. To analyze the effects of several characteristics of the first-term career progression upon A-School performance.
2. To determine the effects of performance in A-School upon subsequent performance and retention in the fleet.

The results and conclusions presented in this chapter are based on the sample data set utilized to conduct research, and are only presented to stimulate follow-on research and provide an inference engine for modifications of existing policy with respect to A-School attrition and academic set back rates. A summary of findings and conclusions, and the recommendations, are presented in the following sections.

## A. SUMMARY OF FINDINGS AND CONCLUSIONS

The following findings and conclusions were drawn from the results of the study:

**1.** High school diploma graduates experienced a lower rate of being academically set back in Navy A-Schools than did non-high school diploma graduates. High school diploma graduates academically attrited at a higher rate than did non-high school graduates. Non-high school diploma graduates had a higher percentage of non-academic attrition than did high

school diploma graduates. High school and non-high school diploma graduates had similar rates of graduation from A-School.

**Conclusion**: A high school diploma is not necessarily a good predictor of A-School graduation or academic attrition.

**Conclusion**: High school and non-high school diploma graduates may have similar rates of graduating from A-School based on the fact that non-high school graduates need to demonstrate on the AFQT tests that they have a higher vocational aptitude than the minimum AFQT scores required for high school diploma graduates.

**Conclusion**: A high school diploma is a relatively accurate predictor of whether an individual will be academically set back.

**2.** AFQT category I exhibited the highest rates of being an A-School graduate and a non-setback. The lower the AFQT category, the higher the academic set back rate became. Academic set back rates were relatively similar across the three lower AFQT categories. AFQT categories IIIB and IV attained a higher A-School graduation rate than did AFQT categories II and IIIA. This finding runs counter-intuitive to previous research in the area of A-School attrition.

**Conclusion**: AFQT category is a good predictor of whether a person will be academically set back.

**Conclusion**: AFQT category is not a good indicator of A-School graduation or attrition.

**3.** ASVAB-waivered individuals had a much higher incidence of being academically set back than did ASVAB-qualified personnel. ASVAB-qualified personnel graduated from A-School at a higher rate, and attained lower academic and non-academic attrition rates, than did ASVAB-waivered people.

**Conclusion:** Whether or not a person required an ASVAB waiver for entrance into a specific A-School pipeline is a very good predictor of A-School performance, in general.

**4.** In both sample populations utilized for this study there was found to be relatively little difference among graduation, academic attrition, non-academic attrition, and academic set back rates between DEP personnel and those who were directly accessed. These results were contrary to prior research in this area, which indicated that DEP personnel perform better in A-School than do directly accessed individuals.

**Conclusion:** There appears to be little, if any, difference between DEP and direct accession in terms of representing overall A-School performance.

**5.** There was relatively no difference in academic set back rates among the 17-21 and 22-26 age groups. The academic set back rate for the 27-34 age group was considerably larger than that of the other two age groups. This finding was in agreement with previous research which indicated that this age group was academically set back at a much higher rate, compared with the other two groups. The 22-26 age group

performed slightly better in all areas of A-School than did the other two groups.

**Conclusion**: Currently, the Navy's recruiting efforts primarily target the 17-21 age group. The 22-26 age group should be reevaluated in terms of its future, and possibly positive, impact on the quality of the force.

**6**. Non-setbacks survived at a higher percentage through the seventh year of service than did academic setbacks. The percentages of A-School graduates remaining in the service throughout the seven years of service far exceeded those of non-academic attrites.

Academic setbacks exhibited a slower rate of promotion than did non-setbacks. This was especially apparent by the sixth and seventh years of service , at which time non-setbacks held a distinct advantage over setbacks in terms of attaining the rank of E-6 more rapidly and at a higher frequency. A-School graduates consistently attained higher pay grade distributions more rapidly than did either academic or non-academic attrites.

Personnel who were not set back showed a higher incidence of being reenlistment eligible than did academic setbacks. The percentage of non-academic attrites who were reenlistment eligible was much lower than those of graduates and academic attrites.

**Conclusion**: In considering the frequency of survival, pay grade distributions, and reenlistment eligibility, non-

setbacks far surpass academic setbacks in terms of performance and retention.

**Conclusion**: Across all three measures of performance and retention subsequent to A-School, Non-academic attrites are far exceeded by graduates and academic attrites.

## B. FINAL CONCLUSIONS

**1**. The "ideal sailor" is an individual who, among other things, is a graduate of an A-School. The attributes inherent in graduating from A-School include: an increased probability of promotion, longevity in terms of service, and reenlistment eligibility. Based upon the statistical outcomes, and the subsequent performance and retention characteristics of an A-School graduate, the "ideal" A-School attendee is an AFQT category I individual, has a high school diploma, is ASVAB-qualified, entered the Navy through the DEP, and whose age ranges from 22 to 26 years.

**2**. Sailors who are least likely to successfully complete the first enlisted term, according to these data, reflect the characteristics of a non-academic attrite. These attributes include: a person who is a non-high school diploma graduate, an AFQT category IIIa individual, required an ASVAB waiver to enter an A-School pipeline, and whose age ranges from 17 to 21 years.

**3**. Prior to the completion of A-School, the non-setback is the performance indicator of choice in the "ideal"

representation of A-School attendee. The non-setback is best characterized by: possessing a high school diploma, is in AFQT category I, is ASVAB-qualified, was directly accessed into the Navy, whose age ranges from 17 to 26 years.

4. The characteristics of the "ideal sailor" and the "ideal A-School attendee" are similar. The selection of these "ideal" people is based solely on what characteristics rose to the top (in terms of percentages), no matter how small they were. There is a slight differentiation, however, concerning the attribute of accession type. The study revealed that the "ideal sailor" was accessed through the DEP, while the "ideal A-School attendee" was directly accessed. The relative differences between DEP personnel and people directly accessed among graduates, academic and non-academic attrites, and academic setbacks were slight. These results run counter-intuitive to previous research indicating that DEP people have a relatively higher level of performance compared with those personnel who were directly accessed. Therefore, type of accession is not a good predictor of success in A-School.

## C. RECOMMENDATIONS

The following recommendations are based upon the results of this thesis:

1. When further research is conducted in the area of A-School performance,the data utilized in the analysis should be both longitudinal and cross sectional in nature. This would

reduce the possibility of bias, which can result from conducting an analysis of a single cohort, from entering into outcomes and conclusions of that research.

2. Further research shouLD address the effects of military requirements (above and beyond existing academic demands) on A-School performance. These areas of research could possibly produce further enlightenment as to the causes and affects of high A-School attrition and academic set back rates.

3. Required ASVAB scores for A-School pipelines should be more closely examined in terms of the extent to which people score above and below a pipeline's minimum requirements in relation to their subsequent A-School performance. This could provide additional validation for the current minimum ASVAB requirements for entry into A-School pipelines.

4. In the process of conducting this study, an attempt was made to demonstrate that prior operational experience was a valid predictor of success in A-School. Duplicate magnetic data tapes containing the records of individuals selected for study were delivered to the Defense Manpower Data Center and the Naval Military Personnel Command (NMPC) in the process of creating a data base for our analysis. The reason is unclear why NMPC was unable to access and utilize the data tape. It is recommended that this prior operational experience variable be examined in further studies. We believe that this variable may

demonstrate an impact upon higher rates of success in A-School pipelines.

5. Several statistical models, such as the Markov Model and vacancy model, could be used to forecase personnel longevity in naval service and pay grade distributions over time, incorporating historical rates of survival and rates of promotion. It is our most sincere hope that the information provided in the preceding pages will serve as a catalyst for further research and to implement change, if so indicated by this research.

## APPENDIX: 1983 A-SCHOOL COHORT ANALYSIS

(Source: Enlisted Training and Tracking File/Active Duty Military Master and Loss Edit File)

**TABLE A-1 HIGH SCHOOL DIPLOMA STATUS BY ACADEMIC SETBACK AND NON-SETBACK STATUS (PERCENT)**

| STATUS | ASB | NSB | TOTAL |
|---|---|---|---|
| HSDG | 15.0 | 85.0 | 100.0 |
| NONHSDG | 18.0 | 82.0 | 100.0 |

**TABLE A-2 HIGH SCHOOL DIPLOMA STATUS BY A-SCHOOL GRADUATE STATUS (PERCENT)**

| STATUS | GRAD | ACAT | NACAT | TOTAL |
|---|---|---|---|---|
| HSDG | 80.7 | 12.2 | 7.1 | 100.0 |
| NONHSDG | 82.7 | 6.7 | 10.6 | 100.0 |

**TABLE A-3 AFQT CATEGORY BY ACADEMIC SETBACK AND NON-SETBACK (PERCENT)**

| CATEGORY | ASB | NSB | TOTAL |
|---|---|---|---|
| I | 6.0 | 94.0 | 100.0 |
| II | 14.7 | 85.3 | 100.0 |
| IIIA | 26.4 | 73.6 | 100.0 |
| IIIB | 22.1 | 77.9 | 100.0 |
| IV | 9.5 | 90.5 | 100.0 |

| TABLE A-4 AFQT CATEGORY BY A-SCHOOL GRADUATION STATUS (PERCENT) | | | | |
|---|---|---|---|---|
| CATEGORY | GRAD | ACAT | NACAT | TOTAL |
| I | 85.8 | 8.3 | 5.9 | 100.0 |
| II | 78.5 | 13.2 | 8.3 | 100.0 |
| IIIA | 81.0 | 11.7 | 7.3 | 100.0 |
| IIIB | 84.2 | 10.9 | 4.9 | 100.0 |
| IV | 84.8 | 13.4 | 1.8 | 100.0 |

| TABLE A-5 ASVAB-QUALIFIED COMPARED WITH ASVAB-WAIVERED BY ACADEMIC SETBACK AND NON-SETBACK (PERCENT) | | | |
|---|---|---|---|
| STATUS | ASB | NSB | TOTAL |
| QUALIFIED | 11.0 | 89.0 | 100.0 |
| WAIVERED | 14.7 | 85.3 | 100.0 |

| TABLE A-6 ASVAB-QUALIFIED COMPARED TO ASVAB-WAIVERED BY A-SCHOOL GRADUATION STATUS (PERCENT) | | | | |
|---|---|---|---|---|
| QUAL/WAIVERED | GRAD | ACAT | NACAT | TOTAL |
| QUALIFIED | 89.5 | 8.6 | 1.9 | 100.0 |
| WAIVERED | 85.6 | 10.9 | 3.5 | 100.0 |

| TABLE A-7 ACCESSION TYPE BY ACADEMIC SETBACK AND NON-SETBACK (PERCENT) | | | |
|---|---|---|---|
| ACCESSION TYPE | ASB | NSB | TOTAL |
| DEP | 15.2 | 84.8 | 100.0 |
| DIRACC | 19.9 | 80.1 | 100.0 |

| TABLE A-8 ACCESSION TYPE BY A-SCHOOL GRADUATION STATUS (PERCENT) | | | | |
|---|---|---|---|---|
| ACCESSION TYPE | GRAD | ACAT | NACAT | TOTAL |
| DEP | 81.5 | 11.7 | 6.8 | 100.0 |
| DIRACC | 78.5 | 12.9 | 8.6 | 100.0 |

| TABLE A-9 AGE BY ACADEMIC SETBACK AND NON-SETBACK STATUS (PERCENT) | | | |
|---|---|---|---|
| AGE RANGE (YEARS) | ASB | NSB | TOTAL |
| 17-21 | 15.2 | 84.8 | 100.0 |
| 22-26 | 15.1 | 84.9 | 100.0 |
| 27-34 | 23.9 | 76.1 | 100.0 |

| TABLE A-10 AGE A-SCHOOL GRADUATION STATUS (PERCENT) | | | | |
|---|---|---|---|---|
| AGE RANGE (YEARS) | GRAD | ACAT | NACAT | TOTAL |
| 17-21 | 80.6 | 12.4 | 7.0 | 100.0 |
| 22-26 | 85.4 | 9.1 | 5.5 | 100.0 |
| 27-34 | 83.6 | 9.8 | 6.6 | 100.0 |

| TABLE A-11 SURVIVOR RATES BY ACADEMIC SETBACK AND NON-SETBACK STATUS (PERCENT) | | | | | |
|---|---|---|---|---|---|
| STATUS | LOS 2 | LOS 3 | LOS 4 | LOS 6 | LOS 7 |
| ASB | 95.2 | 88.7 | 66.5 | 39.4 | 12.7 |
| NSB | 97.5 | 92.1 | 75.2 | 39.4 | 13.1 |

| TABLE A-12 SURVIVOR RATES BY A-SCHOOL GRADUATION STATUS (PERCENT) | | | | | |
|---|---|---|---|---|---|
| STATUS | LOS 2 | LOS 3 | LOS 4 | LOS 6 | LOS 7 |
| GRAD | 99.9 | 94.8 | 77.5 | 42.0 | 13.6 |
| ACAT | 96.2 | 89.5 | 68.4 | 31.4 | 11.2 |
| NACAT | 73.1 | 62.3 | 37.9 | 19.0 | 7.9 |

| TABLE A-13A PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-1, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | LOS 4 | | LOS 5 | |
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-1 | 0.0 | 1.4 | 0.0 | 1.0 | 0.0 | 0.0 |
| E-2 | 4.4 | 3.2 | 3.5 | 0.6 | 0.9 | 0.4 |
| E-3 | 39.2 | 25.0 | 13.8 | 9.9 | 1.9 | 3.3 |
| E-4 | 47.8 | 55.6 | 60.4 | 48.3 | 40.2 | 26.3 |
| E-5 | 8.6 | 14.8 | 22.3 | 40.2 | 57.0 | 67.0 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-13B PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-1, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | |
|---|---|---|---|---|
| | LOS 6 | | LOS 7 | |
| PG | ASB | NSB | ASB | NSB |
| E-1 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-2 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-3 | 0.0 | 1.6 | 0.0 | 1.8 |
| E-4 | 15.2 | 20.4 | 17.1 | 14.4 |
| E-5 | 78.4 | 68.5 | 68.1 | 62.9 |
| E-6 | 5.4 | 9.5 | 14.8 | 20.9 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-14A PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-2, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | LOS 4 | | LOS 5 | |
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-2 | 1.5 | 1.1 | 0.0 | 0.7 | 0.0 | 0.6 |
| E-3 | 24.6 | 20.0 | 12.5 | 6.0 | 0.0 | 2.5 |
| E-4 | 60.8 | 51.6 | 58.0 | 40.6 | 37.9 | 20.3 |
| E-5 | 13.1 | 27.3 | 29.5 | 52.7 | 61.0 | 73.9 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 2.6 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-14B PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-2, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | |
|---|---|---|---|---|
| | LOS 6 | | LOS 7 | |
| PG | ASB | NSB | ASB | NSB |
| E-2 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-3 | 0.0 | 1.0 | 0.0 | 0.0 |
| E-4 | 24.3 | 12.7 | 11.1 | 13.3 |
| E-5 | 71.7 | 72.8 | 88.9 | 55.5 |
| E-6 | 4.0 | 13.5 | 0.0 | 31.2 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-15A PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-3, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | LOS 4 | | LOS 5 | |
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-3 | 11.4 | 7.0 | 2.8 | 2.9 | 1.5 | 1.2 |
| E-4 | 65.2 | 46.3 | 49.3 | 28.6 | 24.5 | 11.8 |
| E-5 | 23.4 | 46.7 | 47.9 | 67.9 | 69.2 | 68.8 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.6 | 4.8 | 18.2 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-15B PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-3, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | |
|---|---|---|---|---|
| | LOS 6 | | LOS 7 | |
| PG | ASB | NSB | ASB | NSB |
| E-3 | 1.5 | 0.3 | 0.6 | 0.2 |
| E-4 | 11.9 | 5.1 | 7.4 | 3.6 |
| E-5 | 69.9 | 53.9 | 60.9 | 40.5 |
| E-6 | 16.7 | 40.7 | 31.1 | 55.7 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-16A PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-4, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | LOS 4 | | LOS 5 | |
| PG | ASB | NSB | ASB | NSB | ASB | NSB |
| E-4 | 70.0 | 32.0 | 50.0 | 16.5 | 27.2 | 6.5 |
| E-5 | 30.0 | 68.0 | 50.0 | 78.3 | 72.8 | 48.4 |
| E-6 | 0.0 | 0.0 | 0.0 | 5.2 | 0.0 | 45.1 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-16B PERCENTAGE DISTRIBUTIONS OF PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-4, BY PAY-GRADE, ACADEMIC SETBACK AND NON-SETBACK STATUS | | | | |
|---|---|---|---|---|
| | LOS 6 | | LOS 7 | |
| PG | ASB | NSB | ASB | NSB |
| E-4 | 0.0 | 2.9 | 0.0 | 0.0 |
| E-5 | 87.5 | 27.5 | 0.0 | 0.0 |
| E-6 | 12.5 | 69.6 | 0.0 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100..0 | 100.0 | 100.0 |

| TABLE A-17A PERCENTAGE DISTRIBUTIONS OF A-SCHOOL GRADUATES FOR PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-1, FOR LOS 3-4 | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | | LOS 4 | | |
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-1 | 1.3 | 0.9 | 0.0 | 1.1 | 0.0 | 0.0 |
| E-2 | 2.8 | 7.9 | 13.0 | 1.3 | 1.9 | 0.0 |
| E-3 | 27.2 | 37.7 | 47.8 | 9.6 | 22.2 | 22.2 |
| E-4 | 55.8 | 49.6 | 39.2 | 51.8 | 61.1 | 66.6 |
| E-5 | 12.9 | 3.9 | 0.0 | 36.2 | 14.8 | 11.2 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-17B PERCENTAGE DISTRIBUTIONS OF A-SCHOOL GRADUATES WHO ENTERED THE NAVY AT PAY-GRADE E-1, FOR LOS 5-6 | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 5 | | | LOS 6 | | |
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-2 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-3 | 2.4 | 10.5 | 0.0 | 1.4 | 3.4 | 0.0 |
| E-4 | 28.9 | 39.5 | 30.0 | 20.1 | 20.8 | 25.0 |
| E-5 | 65.6 | 50.0 | 70.0 | 69.8 | 72.4 | 75.0 |
| E-6 | 2.5 | 0.0 | 0.0 | 8.7 | 3.4 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-17C PERCENTAGE DISTRIBUTIONS OF A-SCHOOL GRADUATES FOR PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-1, FOR LOS 7 | | | |
|---|---|---|---|
| | LOS 7 | | |
| PG | GRAD | ACAT | NACAT |
| E-1 | 0.0 | 0.0 | 0.0 |
| E-2 | 0.0 | 0.0 | 0.0 |
| E-3 | 1.4 | 5.5 | 0.0 |
| E-4 | 15.5 | 16.7 | 25.0 |
| E-5 | 61.8 | 61.1 | 75.0 |
| E-6 | 21.3 | 16.7 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 |

| TABLE A-18A PERCENTAGE DISTRIBUTIONS OF A-SCHOOL GRADUATES FOR PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-2, FOR LOS 3-4 | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | | LOS 4 | | |
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-2 | 1.3 | 1.3 | 0.0 | 0.7 | 0.0 | 0.0 |
| E-3 | 20.1 | 35.9 | 46.2 | 6.9 | 20.0 | 16.6 |
| E-4 | 55.5 | 53.8 | 46.2 | 46.4 | 52.5 | 66.6 |
| E-5 | 23.1 | 9.0 | 7.6 | 46.0 | 27.5 | 16.8 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

**TABLE A-18B PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL FOR PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-2, FOR LOS 5-6**

| | LOS 5 | | | LOS 6 | | |
|---|---|---|---|---|---|---|
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-2 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| E-3 | 2.2 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| E-4 | 24.1 | 38.7 | 50.0 | 16.4 | 17.4 | 0.0 |
| E-5 | 71.0 | 58.1 | 50.0 | 70.5 | 74.0 | 0.0 |
| E-6 | 2.4 | 3.2 | 0.0 | 12.1 | 8.6 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

**TABLE A-18C PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL FOR PERSONS WHO ENTERED THE NAVY AT PAY-GRADE E-2, FOR LOS 7**

| | LOS 7 | | |
|---|---|---|---|
| PG | GRAD | ACAT | NACAT |
| E-2 | 0.0 | 0.0 | 0.0 |
| E-3 | 0.0 | 0.0 | 0.0 |
| E-4 | 12.0 | 50.0 | 0.0 |
| E-5 | 59.5 | 0.0 | 0.0 |
| E-6 | 28.5 | 50.0 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 |

| TABLE A-19A PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL WHO ENTERED THE NAVY AT PAY-GRADE E-3, FOR LOS 3-4 | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | | LOS 4 | | |
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-3 | 5.9 | 13.8 | 34.0 | 2.3 | 4.7 | 17.4 |
| E-4 | 47.3 | 65.6 | 59.2 | 30.2 | 46.3 | 60.3 |
| E-5 | 46.8 | 20.6 | 6.8 | 67.0 | 49.0 | 22.3 |
| E-6 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-19B PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL WHO ENTERED THE NAVY AT PAY-GRADE E-3, FOR LOS 5-6 | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 5 | | | LOS 6 | | |
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-3 | 1.3 | 1.5 | 5.6 | 0.5 | 1.4 | 1.5 |
| E-4 | 13.4 | 19.4 | 33.7 | 5.7 | 10.4 | 20.9 |
| E-5 | 66.7 | 75.5 | 60.7 | 53.3 | 71.8 | 73.1 |
| E-6 | 18.6 | 3.6 | 0.0 | 40.5 | 16.4 | 4.5 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-19C PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL WHO ENTERED THE NAVY AT PAY-GRADE E-3, FOR LOS 7 | | | |
|---|---|---|---|
| | LOS 7 | | |
| PG | GRAD | ACAT | NACAT |
| E-3 | 0.3 | 0.0 | 0.0 |
| E-4 | 3.6 | 8.0 | 3.4 |
| E-5 | 39.1 | 63.4 | 82.8 |
| E-6 | 57.0 | 28.6 | 13.8 |
| E-7 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 |

| TABLE A-20A PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL FOR PERSONNEL ENTERING THE NAVY AT PAY-GRADE E-4, FOR LOS 3-4 | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 3 | | | LOS 4 | | |
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-4 | 26.0 | 57.1 | 90.0 | 14.1 | 29.9 | 60.0 |
| E-5 | 74.0 | 42.9 | 10.0 | 79.6 | 70.1 | 40.0 |
| E-6 | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-20B PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL WHO ENTERED THE NAVY AT PAY-GRADE E-4, FOR LOS 5-6 | | | | | | |
|---|---|---|---|---|---|---|
| | LOS 5 | | | LOS 6 | | |
| PG | GRAD | ACAT | NACAT | GRAD | ACAT | NACAT |
| E-4 | 6.1 | 9.9 | 11.1 | 1.8 | 11.0 | 11.1 |
| E-5 | 43.5 | 79.0 | 88.9 | 21.8 | 56.2 | 55.5 |
| E-6 | 50.4 | 11.1 | 0.0 | 76.4 | 32.8 | 33.4 |
| E-7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| TABLE A-20C PERCENTAGE DISTRIBUTIONS OF GRADUATES OF A-SCHOOL WHO ENTERED THE NAVY AT PAY-GRADE E-4, FOR LOS 7 | | | |
|---|---|---|---|
| | LOS 7 | | |
| PG | GRAD | ACAT | NACAT |
| E-4 | 0.0 | 0.0 | 0.0 |
| E-5 | 0.0 | 0.0 | 0.0 |
| E-6 | 0.0 | 0.0 | 0.0 |
| E-7 | 0.0 | 0.0 | 0.0 |
| TABLE | 100.0 | 100.0 | 100.0 |

| TABLE A-21 REENLISTMENT ELIGIBILITY BY ACADEMIC SETBACK AND NON-SETBACK STATUS (PERCENT) | | | |
|---|---|---|---|
| STATUS | REENELG | NONREENELG | TOTAL |
| ASB | 68.8 | 31.2 | 100.0 |
| NSB | 72.4 | 27.6 | 100.0 |

| TABLE A-22 REENLISTMENT ELIGIBILITY BY A-SCHOOL GRADUATION STATUS (PERCENT) | | | |
|---|---|---|---|
| STATUS | REENELG | NONREENELG | TOTAL |
| GRAD | 75.3 | 24.7 | 100.0 |
| ACAT | 73.2 | 26.8 | 100.0 |
| NACAT | 40.3 | 59.7 | 100.0 |

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